

CLAIMS: "

1 ~~A method of coding a plurality of multimedia data comprising the following~~
steps :

- an acquisition step, for converting said original multimedia data into one or several bitstreams ;

5 - a structuring step, for capturing the different levels of information in said bitstream(s) by means of analysis and segmentation ;

- a description step, for generating description data of the obtained levels of information ;

- a coding step, allowing to encode the description data thus obtained ;

10 wherein said description step comprises :

- a defining sub-step provided for storing a set of descriptors related to said plurality of multimedia data ; and

- a description sub-step, provided for selecting the description data to be coded in accordance with every level of information as obtained in the structuring step ;

15 and said set of descriptors includes at least a shape descriptor and a shape deformation descriptor.

2. A method as claimed in claim 1, wherein the shape descriptor is defined by means of the following characteristics :

20 - Centroid (C_x, C_y) : coordinates of the centroid of the contour.

- Angle θ : angle between horizontal and main axis of the contour.

- Size of the original contour N : size of the contour after resampling.

- Set of ordered Fourier coefficients Z_k : set of invariant Fourier coefficients.

- Size of the Fourier coefficients set P : size of the preceding set, with $1 < P \leq$

25 N , P being necessarily odd.

- Scale : scale parameter.

and the shape deformation descriptor is defined by means of the following characteristics :

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Normalized deviation of the scale: normalized deviation of the scale parameter over the video sequence.

- Maximal size of the original contours N_{\max} : the maximal size of the original contour sizes N over the video sequence. N is an item of the shape descriptor.
- Normalized deviations of each Fourier coefficient σ_{zk} : normalized deviations of each Fourier coefficient over the video sequence.
- Size of the set of normalized deviations of each Fourier coefficient M : size of the preceding set.

10 3. A method as claimed in claim 2, wherein the following C structure is associated to said shape descriptor :

```
typedef struct Shape Descriptor {
```

```
/* Centroid */
```

```
long center x;
```

long center y;

```
/* Angle */
```

float theta;

```
/* Size of the original contour, after resampling (N) */
```

long size of contour;

```
/* Set of Fourier coefficients */
```

```
float *Fourier Coefficients;
```

```
/* Size of the set of Fourier coefficients (P) */
```

long/size Fourier Descriptors Set ;

$$\} ;$$

and the following C structure is associated to said shape deformation descriptor :

/* Normalized deviation of scale */

float Deviation of Scale;

```
/* Maximal size of the original contours in the video sequence (N max)
```

~~*/long Maximal Size of Original contours;~~

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~~/* Normalized deviation on Fourier coefficients */~~

float *Deviation of Fourier coefficients;

5 /* Size of the set of normalized deviations of Fourier coefficients */
 lng Size of Fourier Cefficients Set;
 };

- 10 4. For use in a coding device provided for encoding a plurality of multimedia
data, computer-executable process steps provided to be stored on a computer-readable
storage medium and comprising the following steps :
- an acquisition step, for converting said original multimedia data into one or
several bitstreams ;
 - a structuring step, for capturing the different levels of information in said
15 bitstream(s) by means of analysis and segmentation ;
 - a description step, for generating description data of the obtained levels of
information ;
 - a coding step, allowing to encode the description data thus obtained ;
- wherein said description step comprises :
- 20 - a defining sub-step provided for storing a set of descriptors related to said
plurality of multimedia data ; and
 - a description sub-step, provided for selecting the description data to be coded
in accordance with every level of information as obtained in the structuring step ;
and said set of descriptors includes at least a shape descriptor and a shape deformation
25 descriptor.

- 30 5. A computer program product for a multimedia data coding device, comprising
a set of instructions which when loaded into said coding device lead it to carry out the
process steps as claimed in claim 4.

6. A transmittable coded signal produced by encoding multimedia data according
to a coding method as claimed in claim 1.

7. ~~A method of decoding and processing a signal as claimed in claim 6, wherein~~
said method comprises the following steps:

- a decoding step ;
- a storing step, for storing the decoded signals ;
- a search step, actuated by an user ;
- a retrieval step, on the basis of the actuated search and the stored, decoded signals.

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